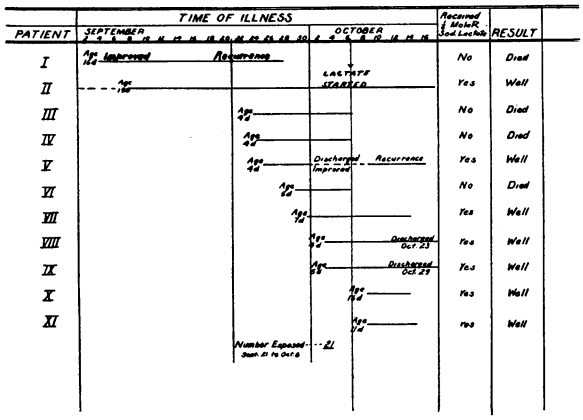

Chart 1.—Results of lactate administration.

per cent, and recovered following the administration of alkali without the development of either diarrhea or vomiting. Although the mechanism responsible for the production of this type of acidosis is obscure, the remarkable response following the use of sixth molar sodium lactate solution* has prompted this report. The correction of acidosis by the use of alkali is, of course, common practice in the management of gastro-intestinal disturbances of infancy. What seems remarkable in this group of cases is the time at which the acidosis occurs, and the insignificance of the primary infection once the acid-base equilibrium has been restored. In cases diagnosed early, lactate may be given subcutaneously without the necessity of additional intravenous fluid. It must be repeated daily until the carbon dioxid content is nearly normal. The statistics in the epidemic to be described illustrate the effectiveness of the therapy emphasized.

COMMENT CONCERNING A RECENT EPIDEMIC

This epidemic occurred in a small hospital near Los Angeles. Among twenty-one patients in the nursery, eleven contracted the disease and four died. The epidemic started when a patient (Case 1), previously isolated because of diarrhea, developed a recurrence after being moved back to the nursery. In Case 2 the patient was admitted with diarrhea contracted at the time of discharge from the nursery of another hospital and was placed in the isolation room with Case 1. The child remained in the isolation room and consequently his relationship to the epidemic is problematical. Each case was in charge of the attending obstetrician until the fourth death occurred. The remaining cases were then supervised by one physician and lactate administration was instituted. Dehydration had been partially combated by the use of glucose and saline. This was given in adequate amounts, but failed to check the progress of the disease. The condition of all but one of these infants was critical. They were exhausted by the severity of the diarrhea and vomiting. Marked abdominal distention was present in the cases manifesting clinical acidosis. Feedings by gavage were necessary. All cases receiving lactate solution improved immediately. No deaths occurred in this group.

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* Molar Sodium r-Lactate (Hartman) is converted into sodium bicarbonate rapidly enough to be effective in severe acidosis, without the danger of producing serious uncompensated alkalosis as may occur following sodium bicarbonate administration. It has the additional advantage of being stable and, therefore, not affected by boiling.

OCCLUSION OF BILIARY SINUS BY BALLOON CATHETER

REPORT OF CASE

By DELL THEODORE LUNDQUIST, M.D.
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A WOMAN, seventy-five years old, giving a history of shortness of breath on exertion, and pain, elsewhere diagnosed as coronary, with a systolic heart murmur and cardiographic changes once interpreted as due to coronary artery disease, consented to operation on April 8, 1937, as the only possible relief for recurrent severe pain (with chills and fever of Charcot type) as pointed out by Dr. George Barnett in consultation. The gall-bladder failed to visualize with dye by mouth on two occasions. With the help of Dr. Edward Liston, an operation was done, consisting of drainage of a fairly normal gall-bladder and removal from it of four irregular bilirubin stones, one of which might have entered the cystic duct. The common duct was explored, without opening it because of falling blood pressure. No great dilatation of it was found, nor any stone palpated therein—only a slight thickening near the ampulla.

After operation, the gall-bladder drainage persisted for three weeks, with a failure to improve in the patient's general condition. There was a suspicion of pancreatic digestion in the wound. Hence, there was made and employed, for the first time in such a sinus, as far as a moderate search of the literature reveals, a device consisting of an ordinary 16 F rubber catheter with a balloon of penrose drain tubing around it and adjacent to its eye. This balloon was constructed by inserting into a hole in the penrose tubing a small (10 F) rubber inflation tube. Using pagenstecher linen, a ligature was made firmly enough about the penrose tubing and the inflation tube to give a tight joint, yet not to occlude the inflation tube. This combination was then slipped over the catheter, and the balloon constructed upon it by ligature of both ends of the penrose tube in a similar fashion. Since that time there have come to my attention the Foley hemostatic bag catheter, for urological use, and the Miller and Abbott[1] double lumen tube for small intestinal intubation. Either of these would probably work just as well in such a site.

The balloon catheter, after boiling, was slipped into the gall-bladder sinus, tied in place to an adhesive strap across the wound and the balloon was inflated through the tube for the purpose, using water injected by a syringe. The bile drainage

1 Miller, T. G., and Abbott, W. O.: Intubation Studies of Human Small Intestine; Technic for Collection of Pure Intestinal Secretion and for Study of Intestinal Absorption, J. A. M. A., 106: 16-18, (Jan. 4), 1936.

ceased, and the wound healed about the catheter in a few days. For a day bile was allowed to drain freely through the catheter. Then it was possible to clamp it, without external drainage of bile. The patient's stools, which since operation had been "clay-colored," once more became brown.

The balloon catheter was employed for cholangiography later, using iodized oil, with a picture interpreted as showing a filling defect at the ampulla. Hence, Pribram's [2] method was followed in an attempt to dissolve a possible common-duct stone, without severe reaction, but without help in biliary flow as indicated by a later cholangiography. The second instillation of another type of iodized oil was followed by a severe febrile reaction and suppression of bile (possibly due to free iodin present).

Second-stage operation was done on June 17, 1937, by Dr. Philip K. Gilman and Dr. Liston. T-tube drainage of the common duct was done after exploration and dilatation of the papilla failed to show any stone. Recovery was fairly prompt, as was healing of the sinus after removal of the T-tube on July 4, and of the tube draining the gall-bladder (which had been preserved for a possible cholecystenterostomy) one week later.

The patient has been free of biliary attacks ever since, though she does present a consistently increased blood sedimentation speed.

COMMENT

Nothing original is claimed in this report other than the use of a balloon catheter to effect temporary closure of an external biliary fistula in a poor surgical risk, shunting the flow of bile into the duodenum until such a time as the patient's condition was improved and able to stand a second-stage operation.

The balloon catheter has appeared in many guises: obstetrical, urological, anesthetic, and gastro-intestinal, but so far as a moderate search reveals, this is the first use of it for a biliary fistula. It would seem reasonable that it might be used in intestinal fistulae as well, possibly also for drainage of empyema cavities.

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HIPPOCRATES' APHORISMS*

By M. Scholtz, M. D.
Arcadia

Section Two (Continued)

11. It's easier to sustain the sick
With liquid food than with a thick.

12. The remnants of disease, alack,
Oft harbor dangers of setback.

13. The night before a crisis, as a rule,
The patient feels discomfort and distress;
The night that comes thereafter is quite likely
To bring the patient comfort, more or less.

14. If the quality of feces shows changes,
It can be viewed as a propitious sign,
Unless the change is definitely bad;
Then it portends a dangerous decline.

15. When throat is sore and lumps form on the body,
Secretions should be watched: if they are bilious,
The trouble is systemic, and is serious;
If they are normal, it's safe to feed the sick.

16. To a patient who is feeble, wan and spent,
Harsh treatments can bring only detriment.

17. When more food than is proper has been taken.
It's likely to occasion a disease;
The treatment used to bring about a cure
Will demonstrate and prove this with great ease.

18. The food which easily assimilated
Produces residue as fast eliminated.

19. In acute disease one cannot tell
Whether the sick will die or will get well.

20. Those who had loose bowels, when quite young
Turn to be constipated in old age;
While persons constipated in their youth,
Get looser bowels at a later stage.

21. Drinking strong wine
Makes appetite decline.

22. Repletion must be treated by depletion,
And vice versa; thus each morbid state
Is best checked by reverse condition.

23. Acute diseases reach their height
Not later than in a fortnight.

24. There are some days "indicative" in illness
Which help to judge the course of a disease.
These are: the fourth, the eighth, also eleventh,
And seventeenth—use them as indices.

25. Most summer quartan fevers clear up fast,
But those of fall and winter tend to last.

26. It's safer for the patient when a fever
Succeeds to a convulsion: the reverse
Sequence makes the prognosis so much worse.

27. Improvements in disease, which are not stable,
Cannot be trusted, as they seldom last;
Alike, fear not irregular bad symptoms,
As mostly they are passing and vanish fast.

28. It does not augur well, if in a serious fever
The patient keeps his weight or loses fast:
The first condition means protracted illness;
The latter that the patient may not last.

29. If purging's indicated, have it done
In early stage of illness; do not wait
Until the crisis starts, since at that time
The body should be kept in a restful state.

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2 Pribram, B. O.: New Methods in Gall-Stone Surgery, Surg., Gynec. and Obst., 60: 55, (Jan.), 1935.

* For other aphorisms, see California and Western Medicine, March, 1940, page 125; April, 1940, page 179.